



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

646.2910

Job Sheet 171156



see 176222.5m

Part No: 646.2910

Job Qty: 8 ea

Part Name: Deflector



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/29/18

Job Tracking No: see also open job 170444

Due Date: 2/15/18

Created By: Michelle Gagnon-Donovan

Type: Stock

Description:

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	8 Ea	2/14/18	2/14/18	0.00	0.00	Start Up Machining-1		lll
100	Bandsaw	8 pcs	2/14/18	2/14/18	0.00	0.02	Bandsaw1		lll
110	CNC Vertical Machining	8 pcs	2/15/18	2/15/18	0.15	5.33	HAAS1-1		lll
120	QC	8 pcs	2/15/18	2/15/18	0.00	0.00	QC2 Machining-1		lll
130	QC	8 pcs	2/15/18	2/15/18	0.00	0.00	QC8 Machining-1		lll
140	Outsource	8 pcs	2/15/18	2/15/18			ATG001-VC		lll
150	Packaging	8 pcs	2/15/18	2/15/18	0.00	0.00	Packaging2		lll
155	QC	8 pcs	2/15/18	2/15/18	0.00	0.00	QC5		lll
180	Packaging	8 pcs	2/15/18	2/15/18	0.00	0.00	Packaging3-1		lll
190	QC21-SA	8 Ea	2/15/18	2/15/18	0.00	0.00	QC21		lll

Part Op 100 - 42.600" long

Descriptions: 140 - Issue P/O to ATG : 8039539 Hard Anodize, Color Black / Prime As per Dwg 646.2900 Rev. N/C

180 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
646.2900E	Deflector	28.8000 ft (3.6 ea)	90-Start up Operation	

M128037

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	646.2900E	29	1	0

N/c

DART
AEROSPACE

1670 AVIATION BLVD
Howesbury, ON K64 1K7
CANADA
TEL.: 1 813 632-6200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S058968



Part: 646.2910

Job No: 171156

Serial No/Batch: S058968

Revision:

Inspector:

Date: 04/06/18

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Deflector	0.360inches $\pm$ 0.010	0.370 0.350		
2	Deflector	1.320inches $\pm$ 0.010	1.330 1.310		
3	Deflector	3.300inches $\pm$ 0.010	3.310 3.290		
4	Deflector	3.000inches $\pm$ 0.010	3.010 2.990		
5	Deflector	0.360inches $\pm$ 0.010	0.370 0.350		
6	Deflector	190.000inches $\pm$ 0.010	190.010 189.990	Radius	
7	Deflector	0.090inches $\pm$ 0.010	0.100 0.080	Radius	
8	Deflector	1.000inches $\pm$ 0.010	1.010 0.990		
9	Deflector	42.380inches $\pm$ 0.010	42.390 42.370		
10	Deflector	20.000Degrees $\pm$ 0.010	20.010 19.990	Angle	

Plex 1/29/18 3:23 PM Dart.Gagnon.Michelle

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03694				SHEET 1 OF 1	
	DWG NO. 646.2900	REV: N/C	PREPARED BY B. PETERS	DATE: 11/14/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: DEFLECTOR					
	APPROVED BY: ENGR <i>JKL</i>	MFG <i>Don Baker</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER		
TRANSACTION CODES (TC) A-ADD C-CREATE R-REVISE D-DELETE	REASON: ADDED ALTERNATE MATERIAL.				ECR: D-12-002	

IS

⚠ PRIMARY MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-225/9.
ALTERNATE MATERIAL: 7075-T6511 ALUMINUM PER AMS-QQ-A-200/11.

SHEET 1, ZONE A2 IS:

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 171156 *msd*

JAN 30 2018

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:					CHANGE CATEGORY	DER REVIEW REQUIRED
☐ RFMS ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM					☐ MAJOR ☒ MINOR	☐ YES ☒ NO

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE 03207		SHEET 1 JF 1	
DWG NO. 646.2900	REV: N/C	PREPARED BY PB	DATE: 08/29/11
EFFECT ON DWG ☐ INC. ☒ UNINC.			
DWG TITLE: DEFLECTOR			
APPROVED BY:	ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>
REASON: ADDED ALTERNATE BASE MATERIAL			EFF: CURRENT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

SHEET 1, ZONE A2, NOTE 1 IS:

NOTES:

1

MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-225/9 OR AMS-QQ-A-250/12

2

FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III CLASS 2,
COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER;
PRIME IAW MIL-P-23377J TYPE I CLASS N

3. DEBURR AND BREAK ALL SHARP EDGES

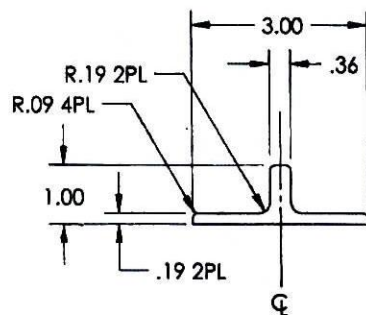
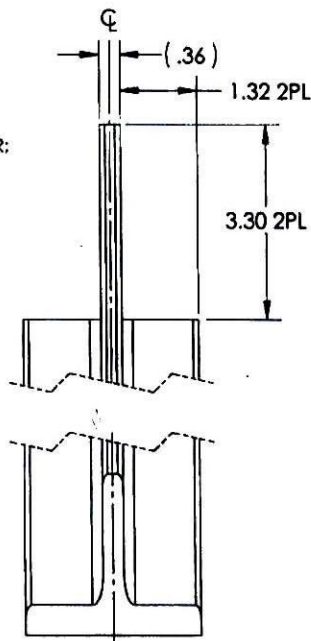
4. IDENTIFY IAW MPP-120

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:						
☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM				CHANGE CATEGORY ☐ MAJOR ☒ MINOR		DER REVIEW REQUIRED ☐ YES ☒ NO

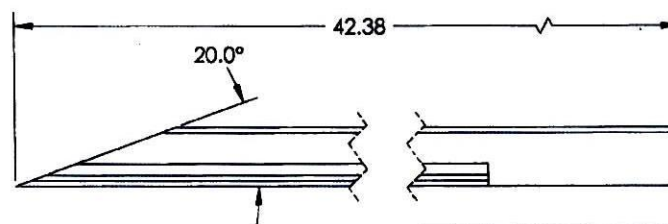
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES:

- 1 MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-225/9
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER; PRIME IAW MIL-P-23377J TYPE I CLASS N
- 3 DEBURR AND BREAK ALL SHARP EDGES
- 4 IDENTIFY IAW MPP-120



646.2910



UNINCORPORATED ECN(s)

03207, 031094,

		646.2910		DEFLECTOR					
		FIND #	PART #	DESCRIPTION		MATL		SPEC.	
QTY		ORIGINAL DATE		PARTS LIST		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300			
NEXT ASSY (S)		DATE OF CHG							
646.4000		BY							
		DRAWING APPROVAL							
		DATE OF CHG				DEFLECTOR			
		CONTRACTING							
		UNLESS OTHERWISE SPECIFIED							
		DIMENSIONS ARE IN INCHES							
		TOLERANCES ARE				REV		C/F	
		1 PLACE DECIMALS 1.00				646.2900			
		2 PLACE DECIMALS .005				SCALE NONE		SHEET 1 OF 1	
		ANGLES 1/2°							
		SCALE NONE							

2.690



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039539**

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO039539
PO Date: 4/9/18
Due Date: 4/27/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Tsimiklis, Chrisoula
Phone:
Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	171156	646.2910	Deflector Issue P/O to ATG : Hard Anodize, Color Black / Prime As per Dwg 646.2900 Rev. N/C	Firmed	4/27/18	8 pcs	0 pcs <i>dx</i>	8 pcs	\$50.80/pcs <i>AT 18/04/18</i> <i>AT 18/04/18</i>	\$406.40
2	171158	646.3110	Channel Issue P/O to ATG : 1- Hard Anodize Black and Prime as per Dwg 646.3100	Firmed	4/27/18	12 pcs	0 pcs <i>12x</i>	12 pcs	\$13.45/pcs <i>AT 18/04/18</i>	\$161.40
3	174111	646.3110	Channel Issue P/O to ATG : 1- Hard Anodize Black and Prime as per Dwg 646.3100	Firmed	4/27/18	6 pcs <i>✓</i>	0 pcs <i>0x</i>	6 pcs	\$13.45/pcs <i>AT 18/04/18</i>	\$80.70

DAS
11
9-89



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 915009

Date: 25-Apr-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Diane Baker
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		OUR TRUCK	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
4 ea	Part: 646.2910 Deflector Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22854 PO: PO039539 Line: 1 Rev: N/C		
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>25/04/2018</u> Certified Signature: <u>[Signature]</u> Receiver Signature: _____ A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			
Made in Canada.			

DAS
11
9-89

APR 27 2018